Title: **Safety and efficacy of tirofiban in ischemic stroke without large-vessel occlusionsnot receiving intravenous thrombolysi: a Randomized Controlled Open-label Trial**

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Abstract

Background: Platelet glycoprotein (GP) IIb/IIIa receptor inhibitors (GPI) including tirofiban, eptifibatide, and abciximab which are the most effective antiplatelet drugs for acute myocardium or cerebral ischemia. Low-dose tirofiban use in patients with early neurological deterioration within the first 24 hours after endovascular treatment is associated with neurological improvement at 90 day. Tirofiban is safe for patients with ischemic stroke who do not receive endovascular treatment. While the sample size of recent study is small. Whether early intravenous tirofiban treatment is safe and effective for ischemic stroke patients without large-vessel occlusions not receiving intravenous thrombolysis is explored. The study was performed to investigate the safety and effectiveness of tirofiban in the acute ischemic stroke patients without large-vessel occlusions not receiving intravenous thrombolysis.

Method: A total of 267 cases were included into analysis, including 134 cases in the tirofiban group and 133 cases in the control group. After admission, patients in the tirofiban group were given tirofiban for at least 72h, 4h before the end of continuous pumping treatment, 100mg aspirin tablets and (or) 75mg hydroclopidogrel were given. The patients in the two groups were followed up for 3 months with the modified Rankin scale score (mRS) and death status, the National Institutes of Health Stroke Scale (NIHSS) score at admission, 24h and 7d, intracerebral hemorrhage transformation within 48h, and other systemic bleedings.

Result: There was no significant difference between the two groups in the incidence of non-symptomatic intracranial hemorrhage, symptomatic intracranial hemorrhage, extracranial hemorrhage events, and thrombocytopenia ($p>0.05$).There was statistically significant between baseline NIHSS scores and that at 7d after treatment in the tirofiban group ($p=0.043$). At 90d, the proportion of patients in the tirofiban group with a good prognosis (mRS=0, 1) was higher than that in the controlL group ($p=0.021$). There was no significant difference in the proportion of patients with mRS=0-2 between these two groups ($p>0.05$).

Conclusion: Short-term (within 3 days) tirofiban therapy is a safe and effective method for acute ischemic stroke patients without large-vessel occlusions not receiving intravenous thrombolysis. It is better than aspirin and (or) clopidogrel in good prognosis of 90 days after stroke.